

IN THE CLAIMS

1. (Currently Amended) A method for determining a reference level for automatic gain control of a radio frequency signal to be received, ~~particularly the radio frequency signal~~ having a varying signal strength, in which the method comprising:

receiving frames of a logical general packet control channel are received, as well as frames which have been transmitted with a predetermined transmission power level and by using a predetermined way of controlling the transmission power level, wherein a wireless communication unit is used to receive said radio block and said frames transmitted by a base transceiver station of a packet switched communication network based on a cellular system,

determining said reference level is determined on the basis of at least one frame of a received radio block, or on the basis of at least one preceding frame preceding the received radio block, or on the basis of both of these, wherein and correcting the reference level is corrected on the basis of the signal strength measured during their the reception of said at least one frame,

measuring the signal strength of the radio frequency signal received in said wireless communication unit, the radio frequency signal being analog, and

correcting the signal gain on the basis of the determined reference level at predetermined intervals.

2. (Currently Amended) A method according to claim 1, ~~wherein the method further comprising:~~

correcting the reference level is corrected by calculating its running average with respect to time.

3. (Currently Amended) A method according to claim 2, ~~wherein the method further comprising:~~

calculating the running average is calculated by using filtering with a varying length.

4. (Currently Amended) A method according to claim 2, ~~wherein the method further comprising:~~

calculating the running average ~~is calculated by~~ using a predetermined number of frames in the received radio block, or in preceding radio blocks, or in both of them, as a forgetting factor.

5. (Currently Amended) A method according to claim 1, ~~wherein the method further comprising:~~

selecting, for determining the reference level, one or more frames ~~are selected, which directly precede immediately preceding the received radio block to be received.~~

6. (Currently Amended) A method according to claim 1, ~~wherein the method further comprising:~~

selecting, for determining the reference level ~~the determination~~, one or more frames of the received radio block. ~~block are selected.~~

7. (Currently Amended) A method according to claim 5, ~~wherein the method further comprising:~~

calculating the reference level value ~~is calculated as~~ a weighted or unweighted average of the signal strength of several frames.

8. (Currently Amended) A method according to claim 1, ~~wherein the method further comprising:~~

determining the signal strength ~~is determined by~~ using samples measured from the radio frequency signal.

9. (Cancelled)

10. (Cancelled)

11. (Currently Amended) A method according to claim 1, claim 10, wherein said predetermined interval is a time slot corresponding to the frequency of occurrence of the received radio block. ~~block in question.~~

12. (Currently Amended) A method according to claim 1, wherein said logical general packet control channel is the PCCCH-packet common control channel of the GPRS-general packet radio service network.

13. (Currently Amended) A method according to claim 1, wherein said ~~control method~~ predetermined way is constant power control used by the GPRS-general packet radio service network in downlink data transmission, power control according to mode A, or power control according to mode B.

14. (Currently Amended) A device for determining a reference level for automatic gain control of a radio frequency signal to be received, ~~particularly the radio frequency signal~~ having a varying strength, the device comprising:

means for receiving frames of a radio~~radio~~ blocks of a logical general packet control ~~channel~~channel, as well as frames preceding said radio block, which have been transmitted with a predetermined transmission power level and by using a predetermined way of controlling the transmission power level, ~~wherein the device comprises~~

means for determining the reference level on the basis of at least one frame of a received radio block, or on the basis of at least one ~~preceding frame~~ preceding the received radio block, or on the basis of both of these, ~~wherein the device is arranged being configured~~ to correct the reference level on the basis of the signal strength measured during the reception ~~their reception of said frames~~

means for measuring the signal strength of an the radio frequency signal received in said wireless communication unit, said radio frequency signal being analog, and

means for correcting the signal gain on the basis of the determined reference level at predetermined intervals.

15. (Cancelled)

16. (Cancelled)

17. (Currently Amended) A device according to claim 14, wherein said device is a wireless communication unit operating in the ~~GPRS~~ general packet radio service network.

18. (Currently Amended) A method according to claim 3, wherein the running average is calculated by using a predetermined number of frames in the received radio block, or in ~~the~~ preceding radio blocks, or in both of these, as a forgetting factor.

19. (Currently Amended) A method according to claim 6, wherein the reference level ~~value~~ is calculated as a weighted or unweighted average of the signal strength of several frames.

20. (Cancelled)

21. (Currently Amended) A method according to claim 4, ~~wherein the method~~ further comprising:

selecting, for determining the reference level, one or more frames ~~are~~ selected, ~~which directly precede~~ immediately preceding the received radio ~~block~~ block to be received.

22. (Currently Amended) A method according to claim 18, ~~wherein the method~~ further comprising:

selecting, for determining the reference level, one or more frames ~~are~~ selected, ~~which directly precede~~ immediately preceding the received radio block to be received.

23. (Currently Amended) A method according to claim 21, ~~wherein the method~~ further comprising:

calculating the reference level ~~value is calculated~~ as a weighted or unweighted average of the signal strength of several frames.

24. (Currently Amended) A method according to claim 22, ~~wherein the method~~ further comprising:

calculating the reference level ~~value is calculated~~ as a weighted or unweighted average of the signal strength of several frames.

25. (New) A device for determining a reference level for automatic gain control of a radio frequency signal to be received, the radio frequency signal having a varying strength, the device comprising:

means for receiving frames of a radio block of a logical general packet control channel as well as frames preceding said radio block, which have been transmitted with a predetermined transmission power level and by using a predetermined way of controlling the transmission power level, wherein the device is a wireless communication unit arranged to receive said radio block and said frames transmitted by a base transceiver station of a packet switched communication network based on a cellular system,

means for determining the reference level on the basis of at least one frame of a received radio block, or on the basis of at least one frame preceding the received radio block, or on the basis of both of these, the device being configured to correct the reference level on the basis of the signal strength measured during the reception of said frames,

means for measuring the signal strength of the radio frequency signal received in said wireless communication unit, said radio frequency signal being analog, and

means for correcting the signal gain on the basis of the determined reference level at predetermined intervals.